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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 November 2007*.

2a)☐ This action is **FINAL**.  2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-47* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All  b)☐ Some *  c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

# DETAILED ACTION

## *Response to Amendment*

1.      The indicated allowability of claims 1-47 is withdrawn in view of the newly discovered

reference(s) to Tan et al. (US 2003/0126315 A1).  Rejections based on the newly cited

reference(s) follow.

## *Claim Rejections - 35 USC § 101*

2.      35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.      Claims 43-45 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.  Claims 43-45 are directed to a program storage device

readable by a computer.  One of the disclosed embodiments for the claimed subject matter is as

a computer-readable carrier (specification, page 19, lines 3-6).  A carrier signal is not patentable

since it is not a process, machine, manufacture, or composition of matter.  Thus, applicant

should delete the non-statutory embodiment "carrier" from the specification.

## *Claim Rejections - 35 USC § 102*

4.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

5.      Claims 1, 12, 13, 15, 26, 27, 29, 35, 41, 43, 46 and 47 are rejected under 35

U.S.C. 102(e) as being anticipated by Tan et al. (Us 2003/0126315 A1).

With respect to the claims below, references to the prior art appear in parenthesis.

<u>Claims</u>

1. *A method for providing a redundant Fibre Channel path* **(Tan teaches a redundant Fibre Channel path 304 and 308 in Figure 3 and paragraph 0035, wherein the Host Bus Adapter 130 is Fibre Channel (paragraph 0017) and the Interconnect 310 is a Fibre Channel loop with switches (paragraphs 0022 and 0031))**, *comprising:*

*detecting a connection change in a Fibre Channel network* **(Monitor Redundant Storage Controllers and Communication Fabric 410 and Detect Potential Failover Condition 420 in Figure 4)***; and*

*verifying a backup device* **(Backup devices include second I/O Port 208 and Standby Controller 330)** *has a path to a connection associated with the connection change* **(Condition in Failover Rule Set 430 and Proper Failover Circumstances 440 in Figure 4 verifies the standby path in case of failover when the path is needed (paragraphs 0032, 0035, 0037 and 0038))** .

12. *The method of claim 1, wherein the verifying further comprises periodically verifying the backup device has a path to a connection associated with the connection change* **(Path monitoring time interval in paragraph 0035)**.

13. *The method of claim 1, wherein the verifying further comprises providing a warning of lack of redundancy when the backup device does not have a path to a connection associated with the connection change* **(Transmit failover or warning flag in Figure 4 and paragraph 0038)** .

15. *A device for providing a redundant Fibre Channel path* **(Tan teaches a redundant Fibre Channel path 304 and 308 in Figure 3 and paragraph 0035, wherein the Host Bus Adapter 130 is Fibre Channel (paragraph 0017) and the Interconnect 310 is a Fibre Channel loop with switches (paragraphs 0022 and 0031))**, *comprising:*

*a port coupled to a Fibre Channel network* **(I/O Ports 204 and 208 coupled to Interconnect 310 in Figure 3)**, *and*

*a processor* **(Host Cpu 124 associated with Host Bus Adapter 130 shown in Figures 1 and 2)**, *coupled to the port, the processor configured for detecting a connection change in a Fibre Channel network* **(Monitor Redundant Storage Controllers and Communication Fabric 410 and Detect Potential Failover Condition 420 in Figure 4)** *and verifying the port has a path to a connection associated with the connection change* **(Condition in Failover Rule Set 430 and Proper Failover Circumstances 440 in Figure 4 verifies the standby path in case of failover when the path is needed (paragraphs 0032, 0035, 0037 and 0038))**.

26. *The device of claim 15, wherein the processor verifies the port has a path to a connection associated with the connection change by periodically verifying the port has a path to a connection associated with the connection change* **(Path monitoring time interval in paragraph 0035)**.

27. *The device of claim 15, wherein the processor provides a warning of lack of redundancy when the port does not have a path to a connection associated with the connection change* **(Transmit failover or warning flag in Figure 4 and paragraph 0038)**.

29. *A network providing a redundant Fibre Channel path* **(Tan teaches a redundant Fibre Channel path 304 and 308 in Figure 3 and paragraph 0035, wherein the Host Bus**

Adapter 130 is Fibre Channel (paragraph 0017) and the Interconnect 310 is a Fibre

Channel loop with switches (paragraphs 0022 and 0031)), *comprising:*

*a local node* (Host Server 120 associated with Host Bus Adapter 130 in Figure 1)*;*

*a remote node* (Storage System 170/180 in Figure 1)*; and*

*a Fibre Channel network coupling the local node and the remote node* (Communication

Fabric 140 in Figure 1)*,*

*wherein at least one of the local node, remote node and Fibre Channel network includes

a first physical interface* (I/O Port 204 in Figure 3) *and a backup physical interface* (I/O Port

208 in Figure 3)*, wherein the backup physical interface further comprises:*

*a port coupled to a Fibre Channel network* (I/O Port 208 to Interconnect 310 in Figure

3)*, and*

*a processor* (Host Cpu 124)*, coupled to the port, the processor configured for detecting

a connection change in a Fibre Channel network* (Monitor Redundant Storage Controllers

and Communication Fabric 410 and Detect Potential Failover Condition 420 in Figure 4)

*and verifying the backup physical interface has a path to a connection associated with the

connection change* (Condition in Failover Rule Set 430 and Proper Failover Circumstances

440 in Figure 4 verifies the standby path in case of failover when the path is needed

(paragraphs 0032, 0035, 0037 and 0038))*.*

*35. The network of claim 29, wherein the processor verifies the backup physical

interface has a path to a connection associated with the connection change by periodically

verifying the backup physical interface has a path to a connection associated with the

connection change* (Path monitoring time interval in paragraph 0035)*.*

*41. The network of claim 29, wherein the processor provides a warning of lack of*

*redundancy when the backup physical interface does not have a path to a connection*

*associated with the connection change* **(Transmit failover or warning flag in Figure 4 and**

**paragraph 0038)***.*

*43. A program storage device readable by a computer, the program storage device*

*tangibly embodying one or more programs of instructions executable by the computer to*

*perform a method for providing a redundant Fibre Channel path* **(Tan teaches a redundant**

**Fibre Channel path 304 and 308 in Figure 3 and paragraph 0035, wherein the Host Bus**

**Adapter 130 is Fibre Channel (paragraph 0017) and the Interconnect 310 is a Fibre**

**Channel loop with switches (paragraphs 0022 and 0031))***, the method comprising:*

*detecting a connection change in a Fibre Channel network* **(Monitor Redundant**

**Storage Controllers and Communication Fabric 410 and Detect Potential Failover**

**Condition 420 in Figure 4)***; and*

*verifying a backup device has a path to a connection associated with the connection*

*change* **(Condition in Failover Rule Set 430 and Proper Failover Circumstances 440 in**

**Figure 4 verifies the standby path in case of failover when the path is needed**

**(paragraphs 0032, 0035, 0037 and 0038))***.*

*46. A device for providing a redundant Fibre Channel path* **(Tan teaches a redundant**

**Fibre Channel path 304 and 308 in Figure 3 and paragraph 0035, wherein the Host Bus**

**Adapter 130 is Fibre Channel (paragraph 0017) and the Interconnect 310 is a Fibre**

**Channel loop with switches (paragraphs 0022 and 0031))***, comprising:*

*means for providing a port to a Fibre Channel network* **(I/O Ports 204 and 208 coupled to Interconnect 310 in Figure 3)**, *and*

*means for processing* **(Host Cpu 124)** *coupled to the means for providing a port, the means for processing detecting a connection change in a Fibre Channel network* **(Monitor Redundant Storage Controllers and Communication Fabric 410 and Detect Potential Failover Condition 420 in Figure 4)** *and verifying the means for providing a port has a path to a connection associated with the connection change* **(Condition in Failover Rule Set 430 and Proper Failover Circumstances 440 in Figure 4 verifies the standby path in case of failover when the path is needed (paragraphs 0032, 0035, 0037 and 0038))**.

*47. A network providing a redundant Fibre Channel path* **(Tan teaches a redundant Fibre Channel path 304 and 308 in Figure 3 and paragraph 0035, wherein the Host Bus Adapter 130 is Fibre Channel (paragraph 0017) and the Interconnect 310 is a Fibre Channel loop with switches (paragraphs 0022 and 0031))**, *comprising:*

*a local node* **(Host Server 120 associated with Host Bus Adapter 130 in Figure 1)**;

*a remote node* **(Storage System 170/180 in Figure 1)**; *and*

*a Fibre Channel network coupling the local node and the remote node* **(Communication Fabric 140 in Figure 1)**,

*wherein at least one of the local node, remote node and Fibre Channel network includes a first means for providing a physical interface* **(I/O Port 204 in Figure 3)** *and a second means for providing a backup physical interface* **(I/O Port 208 in Figure 3)**, *wherein the second means further comprises:*

*means for providing a port to a Fibre Channel network* **(I/O Port 208 to Interconnect 310 in Figure 3)***, and*

*means for processing* **(Host Cpu 124)** *coupled to the means for providing a port, the means for processing detecting a connection change in a Fibre Channel network* **(Monitor Redundant Storage Controllers and Communication Fabric 410 and Detect Potential Failover Condition 420 in Figure 4)** *and verifying the backup physical interface has a path to a connection associated with the connection change* **(Condition in Failover Rule Set 430 and Proper Failover Circumstances 440 in Figure 4 verifies the standby path in case of failover when the path is needed (paragraphs 0032, 0035, 0037 and 0038))***.*

## *Claim Rejections - 35 USC § 103*

6.     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.     Claims 2-5, 10, 14, 16-19, 24, 28, 30-33, 39, 42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan et al.

Tan teaches detecting potential failover conditions which includes event notification over the communication fabric which would potentially affect the operating status of the active and standby communication paths (paragraph 0037).  Tan does not specifically mention a state change notification indicating a device has been added, removed or failed in the Fibre Channel network.  However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide such a state change notification for the reason that the state

change notification is an event notification over the communication fabric that provides notice of

a potential failover condition.

Also, Tan does not teach a name table by the backup device or Topology Database.

However, it would have been obvious to provide the name table and Topology Database for the

reason that Tan must provide path verification for redundant devices wherein the devices must

each have a name identifier in order to distinguish different devices and the paths must be

stored in a database in order to determine the redundant path from other paths.

Furthermore, Tan does not teach taking corrective action in response to the

failover/warning flag in paragraph 0038.  However, it would have been obvious to take

corrective action when the failover/warning flag is received since the purpose of Tan's invention

is to make sure that the standby (i.e. redundant) path is available or "safe" to failover when the

path is needed (paragraph 0035).

Claims

2. *The method of claim 1, wherein the detecting a connection change further comprises*

*issuing a state change notification indicating a device has been added to the Fibre Channel*

*network* **(Obvious since Tan teaches an event notification that notifies of potential failover**

**conditions (paragraph 0037))**.

3. *The method of claim 1, wherein the detecting a connection change further comprises*

*issuing a state change notification indicating a device has been removed from the Fibre*

*Channel network* **(Obvious since Tan teaches an event notification that notifies of**

**potential failover conditions (paragraph 0037))** .

4. *The method of claim 1, wherein the detecting a connection change further comprises*

*issuing a state change notification indicating a device has failed and severed a connection to*

*the Fibre Channel network* **(Obvious since Tan teaches an event notification that notifies of potential failover conditions (paragraph 0037))**.

*5. The method of claim 1, wherein the verifying further comprises querying a name table by the backup device to determine whether the backup device has a redundant path to the connection associated with the connection change* **(Obvious to provide a name table in order to distinguish the redundant device from other devices such as the redundant controller in paragraph 0035)**.

*10. The method of claim 1, wherein the verifying further comprises querying a Topology Database to determine whether a backup device has a redundant path to the connection associated with the connection change* **(Obvious to provide a Topology Database in order to determine the redundant/standby paths of redundant devices such as the redundant controller in paragraph 0035)**.

*14. The method of claim 13, wherein the verifying further comprises taking corrective action in response to the warning of lack of redundancy* **(Obvious in order to make sure standby paths are available or "safe" to failover when the path is needed (paragraph 0035))**.

*16. The device of claim 15, wherein the processor detects a connection change in response to a state change notification indicating a device has been added to the Fibre Channel network* **(Obvious since Tan teaches an event notification that notifies of potential failover conditions (paragraph 0037))**.

*17. The device of claim 15, wherein the processor detects a connection change in response to a state change notification indicating a device has been removed from the Fibre*

*Channel network* **(Obvious since Tan teaches an event notification that notifies of**

**potential failover conditions (paragraph 0037))**.

18. *The device of claim 15, wherein the processor detects a connection change in*

*response to a state change notification indicating a device has failed and severed a connection*

*to the Fibre Channel network* **(Obvious since Tan teaches an event notification that notifies**

**of potential failover conditions (paragraph 0037))**.

19. *The device of claim 15, wherein the processor verifies the port has a path to a*

*connection associated with the connection change by querying a name table to determine*

*whether the port is coupled via a redundant path to the connection associated with the*

*connection change* **(Obvious to provide a name table in order to distinguish the redundant**

**device from other devices such as the redundant controller in paragraph 0035)**.

24. *The device of claim 15, wherein the processor verifies the port has a path to a*

*connection associated with the connection change by querying a Topology Database to*

*determine whether the port is coupled via a redundant path to the connection associated with*

*the connection change* **(Obvious to provide a Topology Database in order to determine the**

**redundant/standby paths of redundant devices such as the redundant controller in**

**paragraph 0035)**.

28. *The device of claim 27, wherein the processor takes corrective action in response to*

*the warning of lack of redundancy* **(Obvious in order to make sure standby paths are**

**available or "safe" to failover when the path is needed (paragraph 0035))**.

30. *The network of claim 29, wherein the processor detects a connection change in*

*response to a state change notification indicating a device has been added to the Fibre Channel*

*network* **(Obvious since Tan teaches an event notification that notifies of potential failover conditions (paragraph 0037))**.

*31. The network of claim 29, wherein the processor detects a connection change in response to a state change notification indicating the first physical interface has been removed from the Fibre Channel network* **(Obvious since Tan teaches an event notification that notifies of potential failover conditions (paragraph 0037))**.

*32. The network of claim 29, wherein the processor detects a connection change in response to a state change notification indicating the first physical interface has failed and severed a connection to the Fibre Channel network* **(Obvious since Tan teaches an event notification that notifies of potential failover conditions (paragraph 0037))**.

*33. The network of claim 29, wherein the processor verifies the backup physical interface has a path to a connection associated with the connection change by querying a name table to determine whether the backup physical interface is coupled via a redundant path to the connection associated with the connection change* **(Obvious to provide a name table in order to distinguish the redundant device from other devices such as the redundant controller in paragraph 0035)**.

*39. The network of claim 29, wherein the processor verifies the port has a path to a connection associated with the connection change by querying a Topology Database to determine whether the port is coupled via a redundant path to the connection associated with the connection change* **(Obvious to provide a Topology Database in order to determine the redundant/standby paths of redundant devices such as the redundant controller in paragraph 0035)**.

*42. The network of claim 41, wherein the processor takes corrective action in response to the warning of lack of redundancy* **(Obvious in order to make sure standby paths are available or "safe" to failover when the path is needed (paragraph 0035))**.

*44. The program storage device of claim 43, wherein the verifying further comprises querying a name table by the backup device to determine whether the backup device has a redundant path to the connection associated with the connection change* **(Obvious to provide a name table in order to distinguish the redundant device from other devices such as the redundant controller in paragraph 0035)**.

8.      Claims 6-9, 11, 20-23, 25, 34, 36-38, 40 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan et al. in view of applicant's admitted prior art.

Tan teaches the use of the Fibre Channel Protocol (paragraph 0017), but does not teach the particulars of the Fibre Channel standard.  Applicant's invention is directed to the Fibre Channel Protocol and recites particular features of the Fibre Channel Standard such as the Fibre Channel Arbitrated Loop (specification , page 3, lines 7-10), World Wide Port Name and World Wide Node Name (page 5, lines 1-5).  Therefore, it would have been obvious to provide the features of the Fibre Channel standard into Tan since Tan is explicitly directed to the Fiber Channel Protocol.

Claims

*6. The method of claim 1 further comprising moving a World Wide Name and World Wide Port Name associated with the connection change to the backup device to provide a redundant path to the connection associated with the connection change* **(Obvious to incorporate admitted World Wide Name and World Wide Port Name features of the Fiber Channel standard to the Fibre Channel Protocol system of Tan)**.

7. *The method of claim 1, wherein the detecting a connection change further comprises receiving an indication from a Loop Initialization Primitive indicating a device has been added to an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

8. *The method of claim 1, wherein the detecting a connection change further comprises receiving an indication from a Loop Initialization Primitive indicating a device has been removed from an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

9. *The method of claim 1, wherein the detecting a connection change further comprises receiving an indication from a Loop Initialization Primitive indicating a device has failed and severed a connection to an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

11. *The method of claim 1 further comprising moving an Arbitrated Loop Physical Address associated with the connection change to a backup device to provide a redundant path to a connection associated with the connection change* **(Arbitrated Loop Physical Address is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

20. *The device of claim 15, wherein a World Wide Name and World Wide Port Name associated with the connection change is changed to be associated with the port to provide a redundant path to the connection associated with the connection change* **(Obvious to incorporate admitted World Wide Name and World Wide Port Name features of the Fiber Channel standard to the Fibre Channel Protocol system of Tan)**.

*21. The device of claim 15, wherein the processor detects a connection change in response to a Loop Initialization Primitive indicating a device has been added to an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

*22. The device of claim 15, wherein the processor detects a connection change in response to a Loop Initialization Primitive indicating a device has been removed from an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

*23. The device of claim 15, wherein the processor detects a connection change in response to a Loop Initialization Primitive indicating a device has failed and severed a connection to an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

*25. The device of claim 15 further comprising an Arbitrated Loop Physical Address associated with the connection change, wherein the Arbitrated Loop Physical Address associated with the connection change is changed to be associated with the port to provide a redundant path to the connection associated with the connection change* **(Arbitrated Loop Physical Address is assumed to be feature of the Fibre Channel Arbitrated Loop standard)**.

*34. The network of claim 29, wherein a World Wide Name and World Wide Port Name associated with the connection change is changed to be associated with the backup physical interface to provide a redundant path to the connection associated with the connection change* **(Obvious to incorporate admitted World Wide Name and World Wide Port Name features of the Fiber Channel standard to the Fibre Channel Protocol system of Tan)**.

*36. The network of claim 29, wherein the processor detects a connection change in response to a Loop Initialization Primitive indicating a device has been added to an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)***.*

*37. The network of claim 29, wherein the processor detects a connection change in response to a Loop Initialization Primitive indicating a device has been removed from an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)***.*

*38. The network of claim 29, wherein the processor detects a connection change in response to a Loop Initialization Primitive indicating a device has failed and severed a connection to an Arbitrated Loop* **(Loop Initialization Primitive is assumed to be feature of the Fibre Channel Arbitrated Loop standard)***.*

*40. The network of claim 29 further comprising an Arbitrated Loop Physical Address associated with the connection change, wherein the Arbitrated Loop Physical Address associated with the connection change is changed to be associated with the port to provide a redundant path to the connection associated with the connection change* **(Arbitrated Loop Physical Address is assumed to be feature of the Fibre Channel Arbitrated Loop standard)***.*

*45. The program storage device of claim 43 further comprising moving a World Wide Name and World Wide Port Name associated with the connection change to the backup device to provide a redundant path to the connection associated with the connection change* **(Obvious to incorporate admitted World Wide Name and World Wide Port Name features of the Fiber Channel standard to the Fibre Channel Protocol system of Tan)***.*

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


                                                            Melvin  Marcelo
                                                            Primary Examiner
                                                            Art Unit 2616

/Melvin  Marcelo/
Primary Examiner, Art Unit 2616
March 2, 2008